ARTESIAN ENVIRONMENTAL

May 24, 1999

Ms. Annie Beal
Reliance Petro Chem
P. O. Box 21117
Bakersfield, CA 93390

Re: **Underground Storage Tank Removal Report**
Eagle Gas
4301 San Leandro Street
Oakland, California

Dear Ms. Beal:

Artesian Environmental (Artesian) was retained by Reliance Petro Chem (RPC) to remove two 6,000 gallon gasoline Underground Storage Tanks (USTs), two 4,000 gallon diesel USTs, and one 300 gallon waste oil UST at the premises of the Eagle Gas facility, located at 4301 San Leandro Street in Oakland, California. After removal of the USTs, Artesian collected confirmation soil and groundwater samples and arranged for the proper analyses at the direction of the Oakland Fire Services. Artesian holds general engineering contractor 'A' license # 624461 including a Hazardous Material Removal Certificate.

This report documents UST removal activities performed by Artesian. Artesian excavated approximately 350 cubic yards of apparently contaminated soils and stockpiled a portion of those soils at the site due to space constraints with the remaining soils temporarily left in the excavation.

Figure 1 (Site Location Map) shows the location of the subject site within the City of Oakland. Figure 2 (Site Map) shows the site and major features of the site in relation to major surrounding offsite features. Figure 2 also shows the current dimensions of the excavation along with confirmational soil and groundwater sample locations. All Figures are contained in Attachment A. The property is presently inactive pending installation of new USTs and completion of any prerequisite remediation.

SCOPE OF WORK

Artesian performed the following tasks:

1. Removed, transported, and disposed two 6,000 gallon gasoline USTs, two 4,000 gallon diesel USTs, and one 300 gallon waste oil UST;

2. Stockpiled excavated soils between plastic sheeting at the site pending landfill profiling and soil disposal;

3. Selected for analysis by a state certified laboratory, soil samples from excavation walls, soil stockpiles, below one UST, and groundwater samples from the floor of the excavation. Analyses and sample locations for each sample were selected in accordance with the requirements of the Oakland Fire Services Agency; and

4. Documented the field activities, reviewed laboratory data, and prepared this report of the UST removal activities.

BACKGROUND

The subject site is located in the southern portion of Oakland, California at the south corner of San Leandro Street and High Street approximately 1,000 feet east of Interstate Highway 880. The site is surrounded by commercial properties and the Bay Area Rapid Transit (BART) railway. The site is bounded by commercial property to the southeast, southwest, and northwest, and by the BART tracks to the northeast.

In December, 1998, the property owner temporarily abandoned the USTs at the site until they could be removed and replaced with new ones. Reliance Petro Chem of Bakersfield, California then began the permitting process for removal of the old USTs and replacement with new ones. Artesian was contracted to permanently close 5 USTs at the site by removal which was completed on April 22, 1999.

FIELD ACTIVITIES

The tanks were emptied of liquid contents by the property owner when temporarily closed. Artesian removed the USTs and transported them as hazardous waste to a state licensed disposal facility.

On Apil 21, 1999 and April 22, 1999, Artesian excavated a total of approximately 350 cubic yards of soil overburden during UST removal activities and stockpiled approximately 150 cubic yards of that material at the site between plastic sheeting. Due to space constraints at the site, approximately 200 to 400 cubic yards of soil which was excavated from around the USTs was placed loosely in the excavation and will have to be removed, sampled, profiled, and likely will require offsite disposal. Artesian then collected representative samples of soil from the soil stockpile for laboratory analysis to profile soils for disposal. Artesian collected a total of 2 confirmational soil samples from the soil stockpile for laboratory analysis. Soils remain at the site pending disposal profiling and transport of soils from the site for disposal.

UNDERGROUND STORAGE TANK REMOVAL

On April 21, 1999, Artesian removed a 6,000 gallon capacity gasoline UST and a 4,000 gallon capacity diesel UST at the subject site. On April 22, 1999, Artesian removed a second 6,000 gallon capacity gasoline UST, a second 4,000 gallon capacity diesel UST, and a 300 gallon waste oil UST at the subject site. The tanks was constructed of single walled steel. Both gasoline USTs measured approximately 17 feet long and 8 feet in diameter, both diesel USTs measured approximately 17 feet long and 6 feet in diameter, and the waste oil UST measured approximately 4 feet long and 4 feet in diameter.

Each of the USTs was emptied prior to UST removal activities by the property owner. Soil was removed from the tops and sides of the tanks using a Case 580 backhoe operated by Mr. Scott Armbruster and a Komatsu PC200 excavator operated by Mr. Edward Svoboda, of Artesian. The tanks were then purged by placing approximately 15 pounds of dry ice into each tank per 1,000 gallons of capacity and allowing the dry ice to sublime, thereby displacing oxygen and potentially explosive vapors with the inert carbon dioxide gas. Air monitoring using a Gastech/ Tanktechtor vapor meter was performed during the

excavation and purging of the tanks. Prior to moving the tanks, the Tanktechtor indicated less than 10% of the lower explosive limit (LEL) and less than 10% oxygen in vapors within each tank with the exception of the northwesternmost gasoline tank. The northwesternmost UST was inerted using approximately 400 pounds of pelletized dry ice before it was removed with 21% LEL (falling) and 5.5% Oxygen in vapors within the tank. Chains secured to the excavator or backhoe were then attached to lifting eyes on each tank for removal from the excavation.

Each tank was placed at the ground surface for inspection to determine its condition. Each of the five tanks appeared to show little or no corrosion with no obvious holes noted. Soils excavated from the vicinity of the USTs exhibited strong petroleum odors similar to gasoline and diesel. The apparent cause of petroleum impacted soils is overfill. Associated piping was removed where it was located within the UST excavation. Product piping located outside the excavation temporarily remains in place pending further work at the site.

The tanks were then lifted onto a trailer bed for transport by ECI - Erickson, Inc. to its disposal facility in Richmond, California. The tanks were transported as hazardous waste under hazardous waste manifest numbers 98751585 and 98751556.

Witnesses to the UST removal included Oakland Fire Inspector Hernan Gomez; Mr. Mohammed Jamil, Owner Representative; Mr. Paul Jones, Mr. Edward Svoboda, and Mr. Scott Armbruster of Artesian.

The depth to the bottom of the 4,000 gallon tanks was approximately 9 feet below ground surface (BGS), depth to the bottom of the 6,000 gallon tanks was approximately 11 feet BGS, and depth to the bottom of the 300 gallon tank was approximately 5.5 feet BGS. Soils directly below the fuel tanks exhibited strong petroleum odors. The presence of petroleum in soils below the USTs confirmed that a release of petroleum from the UST system has occurred. An unauthorized release report was filed with the ACDEH by Mr. Jones on May 5, 1999.

Product piping located outside the excavation temporarily remains in place. Product piping remaining at the site was drained of product before the USTs were removed and remain empty. When this piping is removed, Artesian will collect one soil sample for every 20 lineal feet of piping trench from a depth of approximately 1 foot to 2 feet below the bottom of the piping. Piping trench soil samples will be analyzed for total petroleum hydrocarbons as diesel (TPHd) and TPH as gasoline (TPHg); methyl tertiary butyl ether (MTBE); and benzene, toluene, ethylbenzene, and xylenes (BTEX). When piping has been removed and sample results are available, Artesian will report that information to the ACDEH in a report amendment letter.

SOIL AND GROUNDWATER SAMPLING

A total of 5 confirmational soil samples were collected from the walls and the floor of the excavation as well as three groundwater samples. Four wall samples and one floor sample were collected from the excavation with the excavator bucket between April 21, 1999 and April 22, 1999 to identify where contamination remains in the excavation. Stockpile soil samples were collected and analyzed according to the profiling requirements of the landfill selected as the disposal facility for impacted soils. Figure 2, contained in Attachment A, shows location and collection depths for the confirmational soil and groundwater samples.

Confirmational Soil Samples - Excavation and Stockpiles

Four soil samples were collected from the excavation walls at depths of approximately 7 feet BGS (depth corresponds with the vadose zone), because groundwater was noted in the excavation at approximately 8 feet BGS. One floor sample was collected from below the northwesternmost UST at an approximate depth of 13.0 feet BGS due to the absence of groundwater at that location.

On April 22, 1999, a total of two stockpile soil samples were collected to profile soils for disposal. One 4-point composite sample was collected for every 100 cubic yards of stockpiled soil.

All soil samples were collected into 2-inch diameter brass liners using a slide hammer. The samples were labeled and immediately placed on ice for transport under chain-of-custody control to McCampbell Analytical (McCampbell), a state certified laboratory located in Pacheco, California. Soil sampling equipment was decontaminated after collecting each sample using a non-phosphate detergent and triple rinsed with potable water. All samples were handled and analyzed in accordance with the requirements of the local regulatory agencies.

Groundwater Samples

Groundwater samples were collected at three locations in the vicinity of three of the USTs using new disposable bailers. Groundwater was decanted into three 40-ml glass vials for each sample and one 1 liter glass bottle for a one of the samples. Groundwater sample containers were pre-cleaned and supplied by the laboratory. The containers of groundwater were immediately labeled and placed in an iced cooler for transport to McCampbell to be analyzed.

ANALYTICAL

ANALYSES CONDUCTED

The five soil samples and three groundwater samples collected from the excavation were analyzed for TPHd and TPHg by EPA Method 8015; BTEX and MTBE by EPA Method 8020. Soil sample CS5-6.5 was also analyzed for polyaromatic hydrocarbons (PAH), pentachlorophenol (PCP), and creosote by EPA Method 8270; polychlorinated biphenyls (PCB) by EPA Method 8080; total oil and grease (TOG) by EPA Method 413.1; volatile organic compounds (VOC) by EPA Method 8240; and Cd, Cr, Pb, Ni, and Zn by EPA Method 6010. Groundwater sample GW3 was also analyzed for PAH.

A total of 2 stockpile soil samples (Stockpile 1 and Stockpile 2) collected from the excavated soil were analyzed for TPHd, TPHg, BTEX, and MTBE. Soil sample Stockpile 1 was also analyzed for reactivity, corrosivity, and ignitability in accordance with California Title 22, Section 66261.21 through 66261.23 and lead by EPA Method 6010. All analyses were performed (or subcontracted to another State licensed laboratory) by McCampbell.

SAMPLE RESULTS

Results of laboratory analyses conducted for samples collected at the site are summarized below. Laboratory analytical reports and chain-of-custody documentation are contained in Attachment B. Laboratory analytical results for all soil samples collected from the excavation walls, excavation floor, and stockpiles are presented in Table 1, contained in Attachment C. Sample results of the analysis of groundwater samples are presented in Table 2, contained in Attachment C.

Confirmational Soil Samples - Excavation Floor / Sidewalls

Only soil sample CS4-13 was collected from the floor of the excavation at approximately 2 feet below tahe bottom of the northwesternmost UST. Four samples were collected from the excavation sidewalls due to the presence of groundwater in the other areas of the excavation. TPHd was detected at concentrations from below laboratory detection limits in CS4-13 to 1,900 mg/Kg in CS-2-7. TPHg was detected from concentrations below laboratory detection limits in CS4-13 to 1,600 mg/kg in CS3-7. Benzene was detected from concentrations below laboratory detection limits in CS4-13 to 8.9 mg/kg in CS1-7. Toluene was detected from concentrations below laboratory detection limits in CS4-13 to 110 mg/kg in CS3-7. Ethylbenzene was detected from concentrations below laboratory detection limits in CS4-13 to 42 mg/kg in CS3-7. Xylenes were detected from concentrations below laboratory detection limits in CS4-13 to 220 mg/kg in CS3-7. MTBE was detected from concentrations of 0.08 mg/kg in CS4-13 to 92 mg/kg in CS3-7.

TOG, PCP, PCB, Creosote, and PNA were all below laboratory detection limits in soil sample CS5-6.5. All non-BTEX VOC's were below the laboratory detection limit of 250 µg/Kg (except acetone <1,400 µg/Kg). The elevated detection limit for VOC's is the result of high concentrations of oxygenates in the samples. Concentrations of metals were as follows: Cd ND; Cr 82 mg/Kg; Pb 8.1 mg/Kg; Ni 130 mg/Kg; and Zn 61 mg/Kg.

Confirmational Soil Samples - Stockpiles

TPHd was detected in samples Stockpile 1 and Stockpile 2 at concentrations of 670 mg/Kg and 770 mg/Kg, respectively. TPHg was detected in samples Stockpile 1 and Stockpile 2 at concentrations of 610 mg/Kg and 480 mg/Kg, respectively. Benzene was detected at concentrations of 0.28 and 0.23 in samples Stockpile 1 and Stockpile 2, respectively. Concentrations of toluene, ethylbenzene, and xylenes ranged from 2.3 mg/Kg for toluene in Stockpile 2 to 36 mg/Kg for xylenes in Stockpile 1. MTBE was below laboratory detection limits in both stockpile samples.

Groundwater from Excavation

Three groundwater samples were collected from the excavation at the direction of the Oakland Fire Services Agency. TPHd concentrations ranged from 26 mg/L in GW-2 to 82 mg/L in GW-3. TPHg concentrations ranged from 7.8 mg/L in GW-2 to 22 mg/L in GW-1. Benzene concentrations ranged from 0.79 mg/L in GW-2 to 1.6 mg/L in GW-1. Toluene, ethylbenzene, and xylenes were detected at concentrations ranging from 0.1 mg/L for ethylbenzene in GW-2 to 3.4 mg/L for xylenes in GW-1. MTBE was detected at concentrations from 380 mg/L in GW-1 to 880 mg/L in GW-3.

NATURE AND EXTENT OF CONTAMINATION

SOIL

Petroleum impacted soils at the site were found to extend from a depth of approximately 3 feet to 4 feet BGS to 13 feet in the northwestern portion of the excavation (near sampling location CS4-13) where clay soil was found in the excavation floor. No groundwater was present in this area of the excavation, however, the clay is likely below static water level yet above first encountered water. In the remaining areas of the excavation (away from sampling location CS4-13) groundwater was present and was found to recharge to approximately 8 feet BGS. In areas of the excavation away from sampling location CS4-13, impacted soil appears to be present from approximately 4 feet BGS down to at least 9 feet BGS. The vertical extent of impacted soil was not assessed below approximately 9 feet in the southeasternmost area of the excavation. The lateral extent of petroleum impacted soil has not been defined in any direction.

GROUNDWATER

The groundwater samples collected from the UST excavation contained significant concentrations of gasoline and diesel range petroleum hydrocarbons as well as MTBE. No delineation of petroleum hydrocarbons in site groundwater has been conducted at this time.

CONCLUSIONS

- Two 6,000-gallon gasoline USTs, two 4,000-gallon diesel USTs, and one 300-gallon waste oil UST were removed, transported, and disposed as hazardous waste.
- Analyses of soil and groundwater samples confirm an unauthorized release of petroleum has occurred from the UST system.
- The good condition of the USTs when removed is indicative of over-fills as the main cause of the release; and
- Concentrations of petroleum hydrocarbons in soil and groundwater exceed acceptable levels and will require remediation.

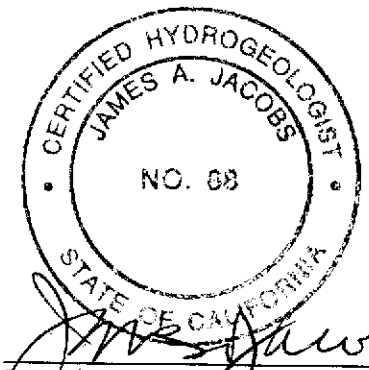
RECOMMENDATIONS

Artesian recommends that the following actions be taken to keep the site in compliance with regulatory requirements issued as of the date of this report. Regulatory agencies are likely to issue additional requirements after the following are completed, the nature of which will depend upon the volume and degree of contaminated soil and/ or groundwater which cannot be feasibly remediated.

- Product piping which remains at the site should be removed and soil samples collected from the bottom of the piping trench in accordance with regulatory guidelines;
- Petroleum impacted soils should be excavated to the degree practicable to remove soils which could act as a source of contamination;
- During excavation activities, as much groundwater as possible should be pumped from the excavation and disposed appropriately (pre-treatment may be necessary); and
- Petroleum impacted soils should be profiled and disposed at an appropriate facility.

If you have any questions or comments, please contact Artesian at (510) 307-9943, extension 230.

Sincerely,
Artesian Environmental



Paul E. Jones
Project Geologist

James A. Jacobs, CHG #88
Certified Hydrogeologist

attachments

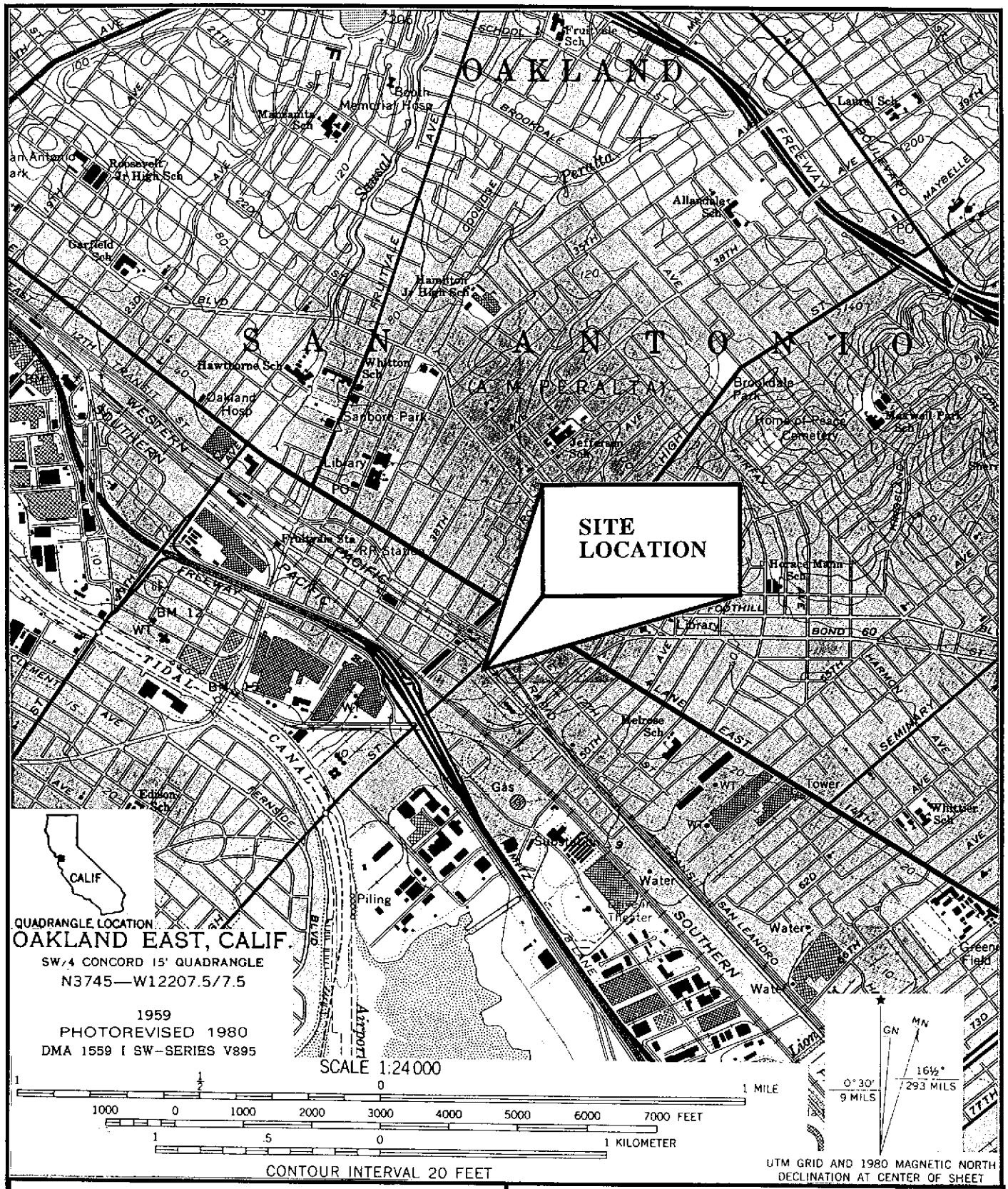
cc: Mr. Barney Chan
Alameda County Department of Environmental Health
Environmental Protection Division
1131 Harbor Bay Parkway, Room 250
Alameda, CA 94502-6577

Mr. Farah Naz
40092 Davis Street
Fremont, CA 94538

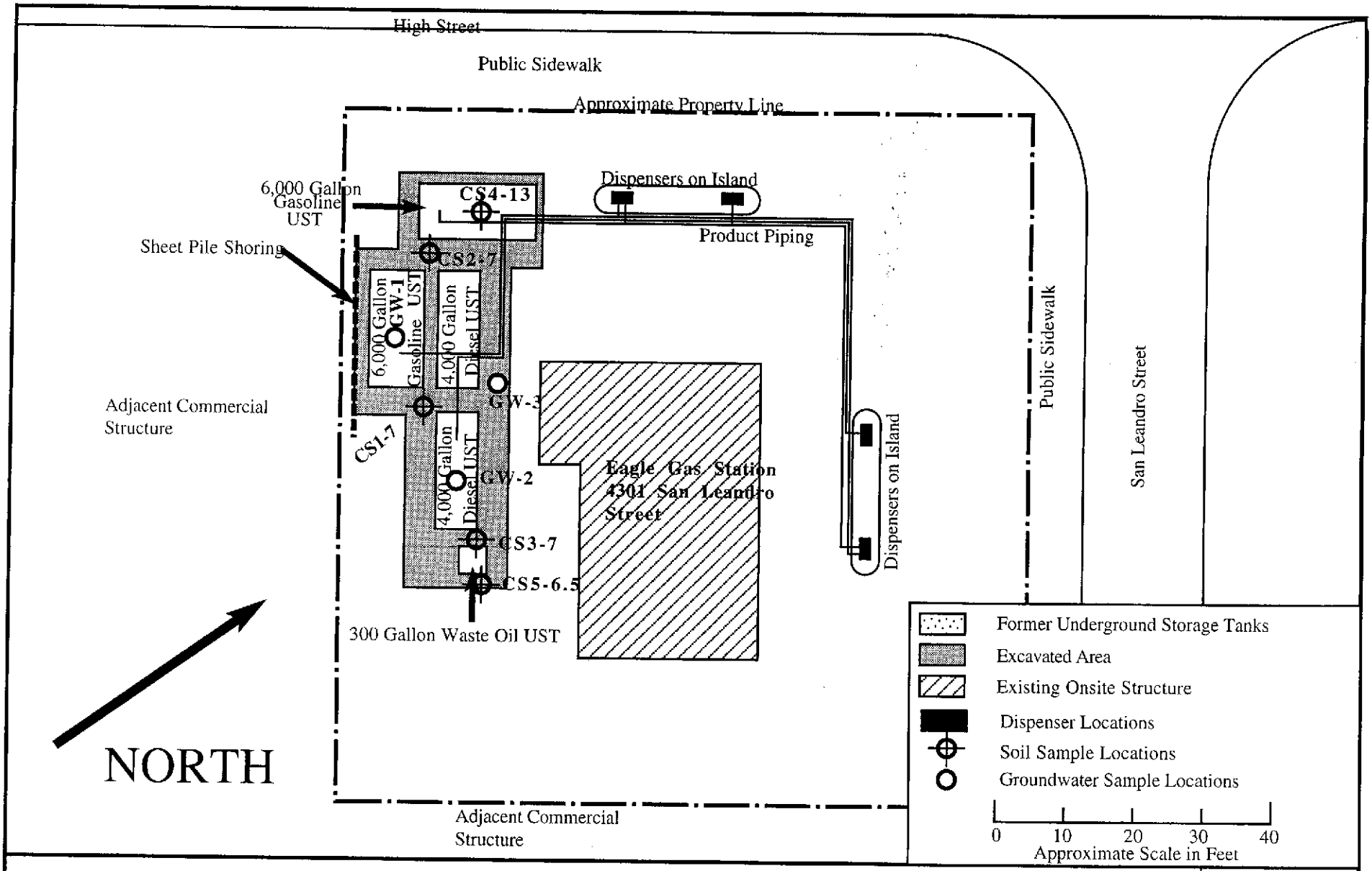
Mr. Don Montgomery
Advanced Financial Services
8305 Vickers Street
Fremont, CA 94538

ATTACHMENT A: FIGURES

Artesian Environmental
229 Tewksbury Avenue • Point Richmond, CA 94801 • TEL (510) 307- 9943 • FAX (510) 232- 2823



ARTESIAN ENVIRONMENTAL 229 Tewksbury Avenue Point Richmond, California 94801 Phone (510) 307-9943 Fax (510) 232-2823		**SITE LOCATION MAP** Eagle Gas Facility 4301 San Leandro Street Oakland, California	
Project No.: 413-001-01	Date: 05/12/99	Prepared by: P. Jones	Figure 1



ARTESIAN ENVIRONMENTAL
229 Tewksbury Avenue
Point Richmond, California 94801
Phone (510) 307-9943 Fax (510) 232-2823

Site Map
Eagle Gas
4301 San Leandro Street
Oakland, California

Project No.: 413-001-01	Date: 05/13/99	Prepared by: P. Jones	Figure 2

ATTACHMENT B: LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY DOCUMENTATION

Artesian Environmental
229 Tewksbury Avenue • Point Richmond, CA 94801 • TEL (510) 307- 9943 • FAX (510) 232- 2823

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Artesian Environmental 229 Tewksbury Avenue Point Richmond, CA 94801	Client Project ID: #413-001-01; RPC/Oakland	Date Sampled: 04/21-04/022/99
		Date Received: 04/23/99
	Client Contact Paul Jones	Date Extracted: 04/23/99
	Client P.O:	Date Analyzed: 04/23/99

04/30/99

Dear Paul:

Enclosed are:

1). the results of **10** samples from your **#413-001-01; RPC/Oakland** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius for

Edward Hamilton, Lab Director

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	Client Contact Paul Jones	Date Extracted: 04/23/99
	Client P.O:	Date Analyzed: 04/24-04/30/99

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
09717	CS1-7	S	770,a	86	8.9	4.8	5.8	16	104
09718	CS2-7	S	880,a	16	3.3	5.7	15	45	93
09719	CS3-7	S	1600,a	92	4.3	110	42	220	99
09720	GW-1	W	22,000,a,h	380,000	1600	1000	860	3400	103
09721	GW-3	W	12,000,a,h	880,000	1100	330	210	710	104
09722	GW-2	W	7800,a,h	470,000	790	410	100	410	104
09723	CS5-6.5	S	20,a	52	0.22	1.8	0.54	3.2	101
09724	Stockpile 1A-D	S	610,b,j	ND<10	0.28	4.7	6.9	36	104
09725	Stockpile 2A-D	S	480,g,j	ND<4	0.23	2.3	3.9	18	100
09726	CS4-13	S	ND	0.080	ND	ND	ND	ND	97
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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Artesian Environmental 229 Tewksbury Avenue Point Richmond, CA 94801	Client Project ID: #413-001-01; RPC/Oakland	Date Sampled: 04/21-04/022/99
		Date Received: 04/23/99
	Client Contact Paul Jones	Date Extracted: 04/23/99
	Client P.O:	Date Analyzed: 04/23-04/26/99

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
09717	CS1-7	S	840,d,g,b	103
09718	CS2-7	S	1900,d,b,g	98
09719	CS3-7	S	780,d,b,g	99
09720	GW-1	W	59,000,a,d,g,h	103
09721	GW-3	W	82,000,c,d,g,h	101
09722	GW-2	W	26,000,a,d,g,h	102
09723	CS5-6.5	S	33,d,b,g	108
09724	Stockpile 1A-D	S	770,a,d,g	103
09725	Stockpile 2A-D	S	670,a,d,g	104
09726	CS4-13	S	ND	99
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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	Client P.O:	Date Analyzed: 04/23/99

Petroleum Oil & Grease (with Silica Gel Clean-up) *

EPA methods 413.1, 9070 or 9071; Standard Methods 5520 D/E&F or 503 D&E for solids and 5520 B&F or 503 A&E for liquids

Lab ID	Client ID	Matrix	Oil & Grease*
09723	CS5-6.5	S	ND
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	5 mg/L
		S	50 mg/kg

* water samples are reported in mg/L, wipe samples in mg/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in mg/L

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5vol. % sediment.

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	Client P.O:	Date Analyzed: 04/23-04/26/99

Volatile Organics By GC/MS

EPA method 624 or 8240

Lab ID	09723
Client ID	CS5-6.5
Matrix	S

Compound	Concentration*	Compound	Concentration*
Acetone [b]	ND<1400	cis-1,3-Dichloropropene	ND<250
Benzene	ND<250	trans-1,3-Dichloropropene	ND<250
Bromodichloromethane	ND<250	Ethylbenzene	ND<250
Bromoform	ND<250	Methyl butyl ketone [d]	ND<250
Bromomethane	ND<250	Methylene Chloride [e]	ND<250
Carbon Disulfide	ND<250	Methyl ethyl ketone [f]	ND<250
Carbon Tetrachloride	ND<250	Methyl isobutyl ketone [g]	ND<250
Chlorobenzene	ND<250	Styrene [k]	ND<250
Chloroethane	ND<250	1,1,2,2-Tetrachloroethane	ND<250
2-Chloroethyl Vinyl Ether [c]	ND<250	Tetrachloroethene	ND<250
Chloroform	ND<250	Toluene [l]	610
Chloromethane	ND<250	1,1,1-Trichloroethane	ND<250
Dibromochloromethane	ND<250	1,1,2-Trichloroethane	ND<250
1,2-Dichlorobenzene	ND<250	Trichloroethene	ND<250
1,3-Dichlorobenzene	ND<250	Trichlorofluoromethane	ND<250
1,4-Dichlorobenzene	ND<250	Vinyl Acetate [m]	ND<250
1,1-Dichloroethane	ND<250	Vinyl Chloride [n]	ND<250
1,2-Dichloroethane	ND<250	Xylenes, total [o]	1500
1,1-Dichloroethene	ND<250	**Surrogate Recoveries (%)**	
cis-1,2-Dichloroethene	ND<250	Dibromofluoromethane	93
trans-1,2-Dichloroethene	ND<250	Toluene-d8	96
1,2-Dichloropropane	ND<250	4-Bromofluorobenzene	125

Comments: p

*water and vapor samples are reported in ug/L, soil and sludge samples in ug/kg, wipes in ug/wipe and all TCLP / SPLP extracts in ug/L

Reporting limits unless otherwise stated: water samples 1 ug/L; vapor samples 0.5 ug/L; solid and sludge samples 5 ug/kg; wipes 0.2ug/wipe

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) 2-propanone or dimethyl ketone; (c) (2-chloroethoxy) ethene; (d) 2-hexanone; (e) dichloromethane; (f) 2-butanone; (g) 4-methyl-2-pentanone or isopropylacetone; (h) lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content; (k) ethenylbenzene; (l) methylbenzene; (m) acetic acid ethenyl ester; (n) chloroethene; (o) dimethylbenzenes; (p) sample dilute due to high oxygenates content.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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Artesian Environmental 229 Tewksbury Avenue Point Richmond, CA 94801	Client Project ID: #413-001-01; RPC/Oakland	Date Sampled: 04/21-04/022/99
		Date Received: 04/23/99
	Client Contact Paul Jones	Date Extracted: 04/23/99
	Client P.O:	Date Analyzed: 04/23/99

Semi-Volatile Organics By GC/MS with PCP & Creosote

EPA method 625 and 3510 or 8270 and 3550

Lab ID	09723
Client ID	CS5-6.5
Matrix	S

Compound	Concentration*	Reporting Limit W	Reporting Limit S	Compound	Concentration*	Reporting Limit W	Reporting Limit S
Acenaphthene	ND	10	0.33	Di-n-octyl Phthalate	ND	10	0.33
Acenaphthylene	ND	10	0.33	1,2-Diphenylhydrazine	ND	10	0.33
Anthracene	ND	10	0.33	Fluoranthene	ND	10	0.33
Benzidine	ND	30	1.0	Fluorene	ND	10	0.33
Benzoic Acid	ND	50	1.6	Hexachlorobenzene	ND	10	0.33
Benzo(a)anthracene	ND	10	0.33	Hexachlorobutadiene	ND	10	0.33
Benzo(b)fluoranthene	ND	10	0.33	Hexachlorocyclopentadiene	ND	20	0.66
Benzo(k)fluoranthene	ND	10	0.33	Hexachloroethane	ND	10	0.33
Benzo(g,h,i)perylene	ND	10	0.33	Indeno(1,2,3-cd)pyrene	ND	10	0.33
Benzo(a)pyrene	ND	10	0.33	Isophorone	ND	10	0.33
Benzyl Alcohol	ND	10	0.66	2-Methylnaphthalene	ND	10	0.33
Bis(2-chloroethoxy)methane	ND	10	0.33	2-Methylphenol (o-Cresol)	ND	10	0.33
Bis(2-chloroethyl) Ether	ND	10	0.33	4-Methylphenol (p-Cresol)	ND	10	0.33
Bis(2-chloroisopropyl)Ether	ND	10	0.33	Naphthalene	ND	10	0.33
Bis(2-ethylhexyl) Phthalate	ND	10	0.33	2-Nitroaniline	ND	20	0.66
4-Bromophenyl Phenyl Ether	ND	10	0.33	3-Nitroaniline	ND	20	0.66
Butylbenzyl Phthalate	ND	10	0.33	4-Nitroaniline	ND	20	0.66
4-Chloroanaline	ND	10	0.33	2-Nitrophenol	ND	50	1.6
4-Chloro-3-methylpheno[	ND	10	0.33	4-Nitrophenol	ND	50	1.6
2-Chloronaphthalene	ND	10	0.33	Nitrobenzene	ND	10	0.33
2-Chlorophenol	ND	10	0.33	N-Nitrosodimethylamine	ND	10	0.33
4-Chlorophenyl Phenyl Ether	ND	10	0.33	N-Nitrosodiphenylamine	ND	10	0.33
Chrysene	ND	10	0.33	N-Nitrosodi-n-propylamine	ND	10	0.33
Dibenzo(a,h)anthracene	ND	10	0.33	Pentachlorophenol	ND	30	1.0
Dibenzofuran	ND	10	0.33	Phenanthrene	ND	10	0.33
Di-n-butyl Phthalate	ND	10	0.33	Phenol	ND	10	0.33
1,2-Dichlorobenzene	ND	10	0.33	Pyrene	ND	10	0.33
1,3-Dichlorobenzene	ND	10	0.33	1,2,4-Trichlorobenzene	ND	10	0.33
1,4-Dichlorobenzene	ND	10	0.33	2,4,5-Trichlorophenol	ND	10	0.33
3,3-Dichlorobenzidine	ND	20	0.66	2,4,6-Trichlorophenol	ND	10	0.33
2,4-Dichlorophenol	ND	10	0.33	Creosote	ND	10	0.33
Diethyl Phthalate	ND	10	0.33	Comments:			
2,4-Dimethylphenol	ND	10	0.33	**Surrogate Recoveries (%)**			
Dimethyl Phthalate	ND	10	0.33	2-Fluorobiphenyl	107		
4,6-Dinitro-2-methylphenol	ND	50	1.6	2-Fluorophenol	115		
2,4-Dinitrophenol	ND	50	1.6	Nitrobenzene-d5	99		
2,4-Dinitrotoluene	ND	10	0.33	Phenol-d5	98		
2,6-Dinitrotoluene	ND	10	0.33	2,4,6-Tribromophenol	121		
PCP	ND	10	0.33	p-Terphenyl-d14	106		

*water samples are reported in ug/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immiscible sheen is present; i)liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content

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Artesian Environmental 229 Tewksbury Avenue Point Richmond, CA 94801	Client Project ID: #413-001-01; RPC/Oakland	Date Sampled: 04/21-04/022/99
		Date Received: 04/23/99
	Client Contact Paul Jones	Date Extracted: 04/23/99
	Client P.O:	Date Analyzed: 04/23-05/03/99

Polynuclear Aromatic Hydrocarbons (PAH / PNA) by GC-MS

EPA methods 625 (modified 610) and 3510 or 8270 (modified 8100) and 3550

Lab ID	09721	09723				Reporting Limit	
Client ID	GW-3	CS5-6.5				S	W, STLC TCLP
Matrix	W	S					
Compound	Concentration*					mg/kg	ug/L
Acenaphthene	ND	ND				0.33	10
Acenaphthylne	ND	ND				0.33	10
Anthracene	37	ND				0.33	10
Benzo(a)anthracene	98	ND				0.33	10
Benzo(b)fluoranthene	47	ND				0.33	10
Benzo(k)fluoranthene	ND	ND				0.33	10
Benzo(g,h,i)perylene	ND	ND				0.33	10
Benzo(a)pyrene	38	ND				0.33	10
Chrysene	10	ND				0.33	10
Dibenzo(a,h)anthracene	ND	ND				0.33	10
Fluoranthene	ND	ND				0.33	10
Fluorene	90	ND				0.33	10
Indeno(1,2,3-cd)pyrene	ND	ND				0.33	10
Naphthalene	55	ND				0.33	10
Phenanthrene	190	ND				0.33	10
Pyrene	110	ND				0.33	10
% Recovery Surrogate 1	84	107					
% Recovery Surrogate 2	90	115					
Comments	h						

* water and vapor samples are reported in ug/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

surrogate diluted out of range or surrogate coelutes with another peak

(h) a lighter than water immiscible sheen is present; (i) liquid sample that contains >~5 vol. % sediment; (j) sample diluted due to high organic content.

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Artesian Environmental 229 Tewksbury Avenue Point Richmond, CA 94801	Client Project ID: #413-001-01; RPC/Oakland	Date Sampled: 04/21-04/022/99
		Date Received: 04/23/99
	Client Contact Paul Jones	Date Extracted: 04/23/99
	Client P.O:	Date Analyzed: 04/24/99

Lead*

EPA analytical methods 6010/200.7, 239.2[+]

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
09724	Stockpile 1A-D	S	TTLC	16	98
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

* soil and sludge samples are reported in mg/kg, wipe samples in ug/wipe, and water samples and all STLC / SPLP / TCLP extracts in mg/L

[+]Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC - CA Title 22

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

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Artesian Environmental 229 Tewksbury Avenue Point Richmond, CA 94801	Client Project ID: #413-001-01; RPC/Oakland	Date Sampled: 04/21-04/022/99
		Date Received: 04/23/99
	Client Contact Paul Jones	Date Extracted: 04/23/99
	Client P.O:	Date Analyzed: 04/26/99

LUFT Metals*

EPA analytical methods 6010/200.7, 239.2#

Lab ID	Client ID	Matrix	Extraction°	Cadmium	Chromium	Lead	Nickel	Zinc	% Recovery Surrogate
09723	CS5-6.5	S	TTLC	ND	82	8.1	130	61	99
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	0.5 mg/kg	0.5	3.0	2.0	1.0	
		W	TTLC	0.005 mg/L	0.005	0.005	0.05	0.05	
		---	STLC, TCLP	0.01 mg/L	0.05	0.2	0.05	0.05	

* water samples are reported in mg/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in mg/L

Lead is analysed using EPA method 6010 (ICP)for soils, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC - CA Title 22

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due to matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

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		Date Received: 04/23/99
	Client Contact Paul Jones	Date Extracted: 04/23/99
	Client P.O:	Date Analyzed: 04/26/99

RCI (Reactivity , Corrosivity & Ignitability) for Solids

California Title 22, Section 66261.21-66261.23; EPA SW846 Chapter 7; EPA methods 9040 / 9045

Lab ID	Client ID	Matrix	Reactivity[+]		Corrosivity[#] (pH @ _°C)	Ignitability[°]
			Cyanide	Sulfide		
09724	Stockpile 1A-D	S	negative	negative	7.54 @ 21.3°C	negative

[+] negative means no obvious reaction with water, no evolution of gas upon contact with water, contains no reactive cyanide or sulfide (<250 mg/kg cyanide and <500 mg/kg sulfide by EPA SW-846, chapter 7), and shows no indication of explosivity.

[#] EPA method 9045; pH = -log(a_{H+}) @ _°C; ± 0.1 units

[°] negative for a soil means the absence of spontaneous combustion and the absence of flammability upon exposure to a naked flame.

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	Client Contact Paul Jones	Date Extracted: 04/23/99
	Client P.O:	Date Analyzed: 04/23-04/24/99

Polychlorinated Biphenyls (PCB)

EPA method 608 and 3510 or 8080 and 3550

Lab ID	Client ID	Matrix	PCB*	% Recovery Surrogate
09723	CS5-6.5	S	ND	109
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	0.5 ug/L	
		S	50 ug/kg	

* water and vapor samples are reported in ug/L, oils in mg/L, soil and sludge samples in ug/kg, wipes in ug/wipe and all TCLP / SPLP /STLC extracts in ug/L.

ND means not detected above the reporting limit

* surrogate diluted out of range or surrogate coelutes with another peak

' PCB aroclors - the first two digits of the aroclor number convey general structural information, where 12 and 10 denote biphenyl compounds with the latter having one phenyl group that is Cl-free; the last two aroclor digits specify its Cl weight %; (a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains >~5 vol. % sediment; (j)sample diluted due to high organic content; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid-permanganate (EPA 3665) cleanup.

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/25/99-04/26/99 Matrix: WATER

Analyte	Concentration (ug/L) Sample (#09710)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	103.1	103.9	100.0	103.1	103.9	0.8
Benzene	0.0	9.9	9.7	10.0	99.0	97.0	2.0
Toluene	0.0	9.6	9.9	10.0	96.0	99.0	3.1
Ethyl Benzene	0.0	9.9	10.0	10.0	99.0	100.0	1.0
Xylenes	0.0	29.4	29.9	30.0	98.0	99.7	1.7
TPH(diesel)	0.0	7840	7558	7500	105	101	3.7
TRPH (oil & grease)	0	22300	23300	23700	94	98	4.4

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/30/99-05/01/99 Matrix: WATER

Analyte	Concentration (ug/L) Sample (#09710)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	104.6	101.9	100.0	104.6	101.9	2.7
Benzene	0.0	10.3	10.1	10.0	103.0	101.0	2.0
Toluene	0.0	10.6	10.3	10.0	106.0	103.0	2.9
Ethyl Benzene	0.0	10.5	10.4	10.0	105.0	104.0	1.0
Xylenes	0.0	31.6	31.2	30.0	105.3	104.0	1.3
TPH(diesel)	0.0	8289	8169	7500	111	109	1.5
TRPH (oil & grease)	0	26200	27500	23700	111	116	4.8

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/25/99-04/26/99 Matrix: SOIL

Analyte	Concentration (mg/kg) Sample (#02714)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	2.339	2.071	2.03	115	102	12.2
Benzene	0.000	0.200	0.194	0.2	100	97	3.0
Toluene	0.000	0.214	0.204	0.2	107	102	4.8
Ethylbenzene	0.000	0.214	0.202	0.2	107	101	5.8
Xylenes	0.000	0.642	0.600	0.6	107	100	6.8
TPH(diesel)	0	279	297	300	93	99	6.2
TRPH (oil and grease)	0.0	24.8	20.5	20.8	119	99	19.0

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/30/99-05/01/99 Matrix: SOIL

Analyte	Concentration (mg/kg) Sample (#01962)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	1.901	1.951	2.03	94	96	2.6
Benzene	0.000	0.182	0.186	0.2	91	93	2.2
Toluene	0.000	0.192	0.202	0.2	96	101	5.1
Ethylbenzene	0.000	0.186	0.192	0.2	93	96	3.2
Xylenes	0.000	0.554	0.574	0.6	92	96	3.5
TPH(diesel)	0	319	303	300	106	101	4.9
TRPH (oil and grease)	0.0	22.8	22.9	20.8	110	110	0.4

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR VOCs (EPA 8240/8260)

Date: 04/23/99-04/24/99 Matrix: SOIL

Analyte	Concentration (ug/kg,u Sample (#01961)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
1,1-Dichloroethe	0	76	84	100	76	84	10.0
Trichloroethene	0	93	99	100	93	99	6.3
EDB	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	0	86	96	100	86	96	11.0
Benzene	0	80	92	100	80	92	14.0
Toluene	0	80	91	100	80	91	12.9

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR SVOCs (EPA 8270/625/525)

Date: 04/22/99-04/23/99 Matrix: WATER

Analyte	Concentration (ug/Kg,m Sample (#05013)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
Phenol	0	36	34	100	36	34	11.4
2-Chlorophenol	0	38	36	100	38	36	5.4
1, 4-Dichlorobenzene	0	44	41	100	44	41	7.1
N-nitroso-di-n-propyl	0	53	51	100	53	51	3.8
1, 2, 4-Trichlorobenz	0	53	52	100	53	52	1.9
4-Chloro-3-methylphen	0	59	57	100	59	57	3.4
4-Nitrophenol	0	45	42	100	45	42	6.9
Acenaphthene	0	69	63	100	69	63	9.1
2, 4- Dinitrotoluene	0	38	34	100	38	34	11.1
Pentachlorophenol	0	48	47	100	48	47	2.1
Pyrene	0	73	72	100	73	72	1.4

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR SVOCs (EPA 8270/625/525)

Date: 04/22/99-04/23/99 Matrix: SOIL

Analyte	Concentration (ug/Kg,m Sample (#01930)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
Phenol	0	62	61	100	62	61	3.3
2-Chlorophenol	0	59	55	100	59	55	7.0
1, 4-Dichlorobenzene	0	85	78	100	85	78	8.6
N-nitroso-di-n-propyl	0	95	94	100	95	94	1.1
1, 2, 4-Trichlorobenz	0	101	95	100	101	95	6.1
4-Chloro-3-methylphen	0	74	72	100	74	72	2.7
4-Nitrophenol	0	74	71	100	74	71	4.1
Acenaphthene	0	81	79	100	81	79	2.5
2, 4- Dinitrotoluene	0	83	78	100	83	78	6.2
Pentachlorophenol	0	50	51	100	50	51	2.0
Pyrene	0	82	78	100	82	78	5.0

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR ICP and/or AA METALS

Date: 04/23/99-04/24/99 Matrix: SOIL

Extraction: TTLC

Analyte	Concentration (mg/kg,mg/L)			Amount	% Recovery		RPD
	Sample	MS	MSD	Spiked	MS	MSD	
Total Lead	0.0	4.86	4.91	5.0	97	98	1.1
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STLC Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR METALS

Date: 04/26/99-04/27/99 Matrix: SOIL

Extraction: TTLC

Analyte	Concentration (mg/kg,mg/L)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
Arsenic	0.0	5.7	5.7	5.0	115	115	0.2
Selenium	0.0	5.4	5.4	5.0	108	109	0.6
Molybdenum	0.0	5.4	5.6	5.0	107	112	3.8
Silver	0.0	0.5	0.5	0.5	98	100	1.4
Thallium	0.0	4.9	4.9	5.0	98	99	0.7
Barium	0.0	4.5	4.5	5.0	90	91	1.3
Nickel	0.0	5.1	5.2	5.0	103	104	1.4
Chromium	0.0	5.4	5.4	5.0	108	109	1.0
Vanadium	0.0	5.0	5.1	5.0	100	102	2.4
Beryllium	0.0	5.2	5.5	5.0	105	109	4.0
Zinc	0.0	5.4	5.3	5.0	108	107	1.0
Copper	0.0	4.9	4.8	5.0	98	97	1.0
Antimony	0.0	5.0	5.1	5.0	100	102	2.1
Lead	0.0	5.1	5.1	5.0	103	102	0.5
Cadmium	0.0	5.4	5.6	5.0	109	112	3.1
Cobalt	0.0	5.3	5.4	5.0	106	108	1.4
Mercury	0.000	0.230	0.230	0.25	92	92	0.0

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

Report To: Paul Jones Bill To: Artesian
Company: Artesian Environmental
229 Tewksbury Avenue
Point Richmond, CA 94801
Tele: (510) 307-9943 Fax: (510) 232-2823
Project #: 413-001-01 Project Name: RAC / Oakland
Project Location: 4301 San Leandro St., Oakland
Sampler Signature:

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260 HVOC's	EPA 625 / 8270 PCP & Creosote	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
CS1-7		4/21/99	1705	1			X				X				X	X															
CS2-7		4/21/99	1725	1			X								X	X															
CS3-7		4/22/99	0805	1			X								X	X															
GW-1		4/22/99	0840	4		X						X			X	X															
GW-3		4/22/99	0905	5		X						X			X	X									X						
GW-2		4/22/99	1115	5		X	X					X			X	X															
CS5-6.5		4/22/99	1050	1			X								X	X	X					X	X	X	X	X					
Stockpile 1-A		4/22/99	1530	1			X								X	X												X	X		
Stockpile 1-B		4/22/99	1535	1			X																								
Stockpile 1-C		4/22/99	1540	1			X																								
Stockpile 1-D		4/22/99	1545	1			X																								
Stockpile 2-A		4/22/99	1600	1			X																								
Stockpile 2-B		4/22/99	1605	1			X								X	X															
Stockpile 2-C		4/22/99	1610	1			X																								
Stockpile 2-D		4/22/99	1615	1			X																								

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓

VOAS | O&G | METALS | OTHER

Relinquished By:	Date:	Time:	Received By:
	4/23/99	0913	
Relinquished By:	Date:	Time:	Received By:
	4/23/99	943	
Relinquished By:	Date:	Time:	Received By:

Remarks:
Please Composite Stockpile Samples
ie Stockpile 1-A
" 1-B
" 1-C
" 1-D
= Stockpile 1

McCAMPBELL ANALYTICAL INC.
110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

Report To: Paul Jones Bill To: Artesian
Company: Artesian Environmental
229 Tewksbury Avenue
Point Richmond, CA 94801
Tele: (510) 307-9943 Fax: (510) 232-2823
Project #: 413-001-01 Project Name: PPC Oakland
Project Location: 4301 San Leandro St., Oakland
Sampler Signature:

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	Analysis Request: BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
CS4-13		4/22/99	1740	1	Brass		X				X				X	X															

	Date:	Time:	Received By:
Relinquished By:	4/22/99	0913	
Relinquished By:	4/23/99	9:43	
Relinquished By:	Date:	Time:	Received By:

Remarks:

ICE/T ✓ VOAS | O&G | METALS | OTHER
GOOD CONDITION ✓ PRESERVATION ✓
HEAD SPACE ABSENT ✓ APPROPRIATE
CONTAINERS ✓

LAR

ATTACHMENT C: TABLES

TABLE 1: SOIL SAMPLE RESULTS
Eagle Gas
4301 San Leandro Street
Oakland, California

Sample Location	Sample Date	TPH-d mg/Kg	TPH-g mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethylbenzene mg/Kg	Xylenes mg/Kg	MTBE mg/Kg
CS1-7	4-21-99	840	770	8.90	4.80	5.80	16	86.00
CS2-7	4-21-99	1,900	880	3.30	5.70	15.00	45	16.00
CS3-7	4-22-99	780	1,600	4.30	110.00	42.00	220	92.00
CS5-6.5	4-22-99	33	20	0.22	1.80	0.54	3	52.00
Stockpile 1	4-22-99	770	610	0.28	4.70	6.90	36	ND
Stockpile 2	4-22-99	670	480	0.23	2.30	3.90	18	ND
CS4-13	4-22-99	ND	ND	ND	ND	ND	ND	0.08

Sample Location	Sample Date	TOG mg/Kg	VOC µg/Kg	Metals mg/Kg	PCP mg/Kg	PCB mg/Kg	Creosote mg/Kg	PAH mg/Kg
CS5-6.5	4-22-99	ND	Non-BTEX All <250	Cd ND Cr 82 Pb 8.1 Ni 130 Zn 61	ND	ND	ND	All ND

NOTES:			
TPH-g	Total Petroleum Hydrocarbons as gasoline	PCB	Polychlorinated biphenyl
		PCP	Pentachlorophenol
TPH-d	Total Petroleum Hydrocarbons as diesel	MTBE	Methyl Tertiary Butyl Ether
		mg/Kg	milligrams per Kilogram (ppm)
TOG	Total Oil and Grease	µg/Kg	micrograms per Kilogram (ppb)
PAH	Polyaromatic Hydrocarbons	ND	Not Detected (above method reporting limit)
VOC	Volatile Organic Compounds	NA	Not Analyzed

TABLE 2: GROUNDWATER SAMPLE RESULTS

Eagle Gas
4301 San Leandro Street
Oakland, California

Sample Location	Sample Date	TPH-d mg/L	TPH-g mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	MTBE mg/L
GW-1	4-22-99	59	22	1.6	1	0.86	3.4	380
GW-2	4-22-99	26	7.80	0.79	0.41	0.1	0.41	470
GW-3	4-22-99	82	12	1.1	0.33	0.21	0.71	880

PAH Constituents in GW-3*

Constituent	Concentration
	(µg/L)
Anthracene	37
Benzo(a)anthracene	98
Benzo(b)fluoranthene	47
Benzo(a)pyrene	38
Chrysene	10
Fluorene	90
Naphthalene	55
Phenanthrene	190
Pyrene	110

NOTES:

*	Only detected constituents are listed	mg/L	milligrams per liter (ppm)
TPH-g	Total Petroleum Hydrocarbons as gasoline	µg/L	micrograms per liter (ppb)
TPH-d	Total Petroleum Hydrocarbons as diesel	ND	Not Detected (above method reporting limit)
MTBE	Methyl Tertiary Butyl Ether		